

WHAT IS CLAIMED IS:

1. A method of verifying the validity of a SATPS three satellite solution, comprising:
separating the three SATPS satellites into a first pair and a second pair;
5 constructing a primary solution and an alternate solution, wherein the primary solution and
the alternate solution satisfy the measurement constraints;
computing a Doppler difference estimate for the primary solution and a Doppler difference
estimate for the alternate solution;
computing Doppler difference residuals for the first pair and the second pair of SATPS
10 satellites; and
comparing the Doppler difference residuals for said primary and alternate solutions to
determine a valid solution.
2. The method of claim 1, wherein the computing of a Doppler difference residuals
15 comprises differencing a measured Doppler difference from an estimated Doppler difference for the
first pair and the second pair of SATPS satellites.
3. The method of claim 2, wherein the determination of a valid solution comprises
comparing the difference between the Doppler difference residuals to a predetermined number.
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4. The method of claim 3, wherein when the Doppler difference residuals exceed the
predetermined number, the alternate solution is selected as the valid solution.

5. A method of verifying the validity of a SATPS three satellite solution, comprising:
- separating the three SATPS satellites into a first pair and a second pair;
 - constructing a primary solution and an alternate solution, wherein the primary solution and the alternate solution satisfy the measurement constraints;
 - 5 computing a Doppler difference estimate for the first pair and the second pair of both the primary and alternate solutions;
 - computing Doppler difference residuals for the first pair and the second pair of SATPS satellites in each solution by subtracted measured doppler differences from the doppler difference estimates; and
 - 10 comparing the Doppler difference residuals for said primary and alternate solutions to determine a valid solution.